

THE NORTHERN-MOST SURVIVING POPULATION OF THE SOUTHERN BROWN BANDICOOT (*ISOODON OBESULUS*) IN WESTERN AUSTRALIA

By RAY HART

Hart, Simpson and Associates, 324 Onslow Rd,
Shenton Park, W.A. 6008.

ABSTRACT

The Southern Brown Bandicoot or Quenda, *Isoodon obesulus*, was once widespread across southern Western Australia, but now occurs in reduced numbers and in a reduced range. For many years it was gazetted under the Wildlife Act in Schedule 1 as in need of special protection because it is rare or likely to become extinct, but is now listed by the Department of Coservation and Land Managment as a Priority 4 species (not currently threatened but in need of monitoring). It has been greatly reduced on the Swan Coastal Plain. A roadkill specimen was collected in August 1997 which shows that there is a population in the Wilbinga area east of Guilderton. This population is the northern-most known surviving population. The next population known to the south is near Two Rocks. The vegetation of the site reported here is *Banksia* woodland with a diverse shrub and perennial herb understorey. Although this species occurs in any dense vegetation, it is now most often found in wetter sites which provide the most favourable habitat. There are no wetlands nearby and examination of the surrounding area suggested that the animals may be surviving because of the presence of patches of dense heath over limestone. The site is crown land in State Forest 65 which is likely to remain as native vegetation. There are extensive areas of native vegetation in the State Forest and adjacent. The size and extent of the population are not known, and further study is required to assess the long term viability of the population. The population is probably threatened by fox predation as this is believed to be the main threat to all populations. Just to the north of the site considered here the remaining native vegetation is more broken up along the Moore River and there may be less opportunity for this species to survive and to move between remnants. The population described here may well be the northern-most population likely to be still surviving.

SPECIMEN AND HABITAT

A roadkill specimen was collected on 15th August 1997 on the Perth-Lancelin Road north of Wilbinga Grove at SLK 24.35 which is at 115°36'39"E, 31°21'41"S, and approximately 10km east of Guilderton. The specimen was donated to the W.A. Museum (accession number M47780). The specimen was an adult male of 1.6kg after it was collected. It was picked up in the late afternoon and was probably killed the previous night so its true weight could have been greater.

The vegetation of the site is *Banksia* woodland with 20–30% tree cover dominated by *Banksia attenuata* and *B. menziesii*, with smaller numbers of *Eucalyptus todtiana*, *Allocasuarina fraseriana* and *Nuytsia floribunda*, over a diverse and patchy shrub and perennial herb stratum of 30–70% cover with no dominants and mainly less than one metre tall, on grey sand over yellow sand. The site had not been burnt for many years and had a high litter cover of 70–100%.

Examination of an aerial photograph showed that there were no wetlands near the site, but there were patches of dense heath. Some of these were visited and found to be dense heath on shallow sand over limestone or on limestone. Typically these had tall shrubs 1–2m tall and giving 70–100% cover. The most common species were *Dryandra sessilis*, *Hibbertia hypericoides* and *Melaleuca acerosa*.

The only evidence of bandicoots on the ground were a few diggings

and droppings within the heath, but rabbits were abundant and obscured most signs.

The site is within a block of State Forest 65 which includes extensive areas of native vegetation locally, and pine plantations further south.

DISCUSSION

The Southern Brown Bandicoot was once widespread across southern Western Australia, but now occurs in reduced numbers and in a reduced range (Friend 1990, Braithwaite 1995). For many years it was gazetted under the Wildlife Act in Schedule 1 as in need of special protection because it is rare or likely to become extinct, but is now listed by the Department of Conservation and Land Management as a Priority 4 species (not currently threatened but in need of monitoring). In particular it has been greatly reduced on the Swan Coastal Plain.

The specimen collected here represents the northern-most known population. The next population to the south is near Two Rocks (T. Friend pers. comm.). There are no recent specimens in the W.A. Museum north of Yanchep and Bullsbrook, and the population in Yanchep National Park is sparse (CALM 1989).

The habitat described here is part of the extensive Jurien System of Beard (1979), and agrees well with Beard's description of "The general vegetation is *Banksia* low woodland with scrub-heath on limestone ridges and occasional

small patches of stunted eucalypts". This system is the northern continuation of the Spearwood dunes and extends to north of Jurien Bay. Examination of the site suggested that the Bandicoots were more common in the heath than in the Banksia woodland, but no detailed survey was carried out. Bandicoots are not restricted in habitat and occur in any vegetation which is dense enough. The heath on limestone is probably providing the best available habitat locally but the animals would not be restricted to it.

The site is part of a block of State Forest 65 which is likely to remain as native vegetation as there is no proposal to change its use (CALM 1994).

The Southern Brown Bandicoot is thought to have declined greatly due to fox predation, and locally due to loss of habitat. Originally it occurred from Shark Bay (Baynes 1990) to the Hampton Tableland right on the southern edge of the Nullarbor (Baynes 1987), which includes all of the South-Western Botanical Province. It still occurs widely from just north of Perth to east of Esperance but only in more coastal areas (Friend 1990).

There are large areas of potential habitat in State Forest 65 and adjacent lands, but the size and extent of the population is not known. There is another block of State Forest 65 and other large areas of native vegetation to the north, but regional maps show that these vegetated areas are more isolated. In particular there is extensive old clearing along the Moore River just to the north of

the site discussed here. This fragmentation may make it more difficult for populations to survive, and the population described here may well be the northern-most population likely to be still surviving.

REFERENCES

- BAYNES, A. 1987. The Original Mammal Fauna of the Nullarbor and Southern Peripheral Regions: Evidence from Skeletal Remains in Superficial Cave Deposits. In: McKenzie, N.L. & Robinson, A.C. *A Biological Survey of the Nullarbor Region, South And Western Australia*, in 1984. South Australian Department of Environment and Planning, Western Australian Department of Conservation and Land Management and Australian National Parks and Wildlife Service, Adelaide.
- BAYNES, A. 1990. The Mammals of Shark Bay, Western Australia. In: Berry, P.F., Bradshaw, S.D. & Wilson B.R. *Research in Shark Bay. Report of the France-Australie Bicentenary Expedition Committee*. Western Australian Museum, Perth.
- BEARD, J.S. 1979. *Vegetation Survey of Western Australia. 1:250,000 Series. Perth Area*. Vegmap Publications, Perth.
- BRAITHWAITE, R.W. 1995. Southern Brown Bandicoot. In: Strahan, R. (ed.) *The Mammals of Australia*. Angus and Robertson, Sydney.
- CALM 1989. Yanchep National Park. Management Plan 1989-1999.

Department of Conservation and Land Management, Perth.

CALM 1994. Forest Management Plan 1994–2003. Department of Conservation and Land Management, Perth.

FRIEND, T. 1990. Status of Bandicoots in Western Australia. In: Seebeck, J.H., Brown, P.R., Wallis, R.I. & Kemper, C.M. (eds). *Bandicoots and Bilbies*. Surrey Beatty, Sydney.